

The International Commission on Zoological Nomenclature: what it is and how it operates

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The Commission is a body of zoologists set up in Leiden in 1895 by the 3rd International Congress of Zoology to provide and maintain a uniform system of zoological nomenclature. This paper is an informal account of the functioning of the Commission at the present time.

The Commission's primary activity is the publication of the *International Code of Zoological Nomenclature*, the rules which are universally accepted as governing the application of scientific names to all organisms in the animal kingdom. The *Code* must provide stability and yet adapt to the changes required by advances in biological knowledge and also by what may be described as cultural evolution, such as the shift in emphasis towards usage at the expense of overriding adherence to classical grammar or to the priority of the oldest (even if forgotten) name for a taxon. These changes require the production of successive editions of the *Code*, although in the interests of stability it is important that the intervals between them should not be too short. The current edition was published in February 1985, and supersedes earlier ones. No amendments have been adopted since that time. About 6000 copies have been distributed; sales are now handled by the Commission Secretariat in London and the American Association for Zoological Nomenclature in Washington.

Suggested amendments to the *Code* are received by the Secretariat, which, following correspondence with the originators, brings them to the attention of the Commission. There is an editorial committee responsible for drafting the next edition of the *Code*. Proposed amendments are published in *The Bulletin of Zoological Nomenclature*, the Commission's quarterly periodical, and comments are invited. Publicity is also given in other journals. At least a year must elapse from the publication of amendments before they can be voted upon by the Commission, but in practice this period is longer: it is of the greatest importance that all zoologists (in the widest sense) and not just the Commission members can participate in changing the *Code*. Amendments take formal effect when they have been approved by the Commission and ratified at a General Assembly of the International Union of Biological Sciences. The Commission has operated under the auspices of this Union since 1972, when the final International Congress of Zoology was held in Monaco.

In addition to producing successive editions of the *Code*, the Commission may use the plenary power, which it has had since the 1913 Congress, to waive or modify the application of *Code* provisions in instances when strict adherence would cause confusion and thereby defeat the purpose of scientific nomenclature. In other cases a decision by the Commission may promote stability without setting aside *Code* provisions. The Commission takes these actions in response to applications submitted to it via the Secretariat.

About 50 applications are received each year. On arrival each is given an initial assessment. This may show that no formal Commission action is necessary and that the

applicants can be satisfied by correspondence; the Secretariat is very willing to give advice. If it appears that further action is needed the applicant is notified of this and the title by which the case is described, and may be asked for supplementary information. He is also advised that shortage of resources makes a delay inevitable, but that while the case is under consideration existing nomenclatural usage should be maintained (Article 80 of the *Code*), even if it would otherwise be contrary to the rules. The titles and authors of recently received applications are published in the *Bulletin* so that other workers in that field can be aware of the application.

'Instructions to Authors' are published in each Part of the *Bulletin*, and it is important that these are followed; if a draft is very different from *Bulletin* format it may have to be returned to the authors before work on it can begin. It is always desirable for an applicant to discuss his case with other workers in his field before submitting an application; this helps to ensure that he is aware of the wider implications and the likely reactions of others.

Cases are dealt with in approximate order of receipt. Treatment may be accelerated if particularly important species are concerned, if an urgent threat to stability exists or if, for example, a forthcoming major treatise is involved. Conversely, long and intricate cases may be delayed, especially if they are not well prepared. The aim is to publish cases within about a year of receipt, but shortage of resources often makes this impossible.

Within the Secretariat one person is primarily responsible for working on each application. This involves ensuring that when published it will be comprehensible to readers of the *Bulletin* who are not specialists in the taxonomic group(s) concerned, and that the stated facts are both accurate and an adequate basis for a Commission ruling. Other members of the Secretariat, including the Executive Secretary, read the application both in typescript and at the proof stages, and there is close consultation within the office. Applications are not normal papers, which if 'bad' merely lower an author's scientific reputation, but serve to draw to the attention of the zoological community and of the Commission instances where an official ruling (an 'Opinion') by the Commission is needed to resolve nomenclatural difficulties. In a sense applicants are really applying on behalf of the zoological community as a whole, and it follows that the Secretariat has a duty to make sure, as far as reasonably possible, that all the relevant facts are made available; it would not be adequate to confine attention to matters of editorial style. Equally, there is an obligation not to be officious and certainly not to 'censor' or delay cases because the Secretariat members may personally disagree with them. The Secretariat, housed in the Natural History Museum in London, is fortunate in having excellent access to the literature of the last 250 years, and applicants often express appreciation of the attention which is given to their cases. Authors are sent typescript copy before the case is passed to the *Bulletin* printers, and this is almost invariably preceded by correspondence (which may be extensive). Experience has shown that multiple authors do not always maintain contact with each other, and that it is important to ensure that misunderstandings do not arise from this.

Cases vary greatly in length: only one name or up to several dozen may be dealt with in the eventual Opinion. The working time needed to bring an application to the printing stage varies from a couple of days to, in extreme cases, several weeks; a few days is typical. This time is naturally spread over a period, and covers reading the

application and key references (often with extensive note-taking), drafting and correspondence. At any one time each member of the Secretariat is dealing with several applications. When final copy is agreed with the authors the case is sent on disk to the printers; preparation of disks for automated printing gives improved proof quality and saves costs.

The progress of most applications from receipt to publication is relatively straightforward. In a small minority of cases considerable delays occur, and indeed this has incurred criticism since the Commission's earliest days. The causes of such delays vary. Sometimes applicants submit a case and then fail to answer further correspondence. Cases may at first appear to be limited in scope, but on further investigation prove to have wide implications which require much correspondence. In some instances cases are so long or intricate, or are part of such an extensive linked series, that the necessary work can only be completed over a substantial period, having regard to the Secretariat's commitments and limited resources. Specialist advisers and nomenclature committees give very valuable help with some applications, but such consultations have on occasion themselves been a cause of delay.

After publication of an application in the *Bulletin* the Abstract is sent to relevant journals, with a request for publicity. Publication is an invitation for comments from interested zoologists. Comments are edited and published in the *Bulletin*; copies are sent to the applicants, who may wish to make a response. In some cases explanatory notes by the Secretariat may also be published.

If no obstacle arises an application is normally voted upon by the Commission about one year after its publication, but this period will be increased if there are significant opposing comments. Preparation by the Secretariat of voting papers (which are sent out in batches of 15–20 three times a year) takes considerable time. Each case is reviewed and explanatory notes arising from consideration of the application and comments are often added for the assistance of Commissioners. Late comments are noted on the voting papers, and also in the subsequent Opinion. Votes are returned within three months; a two-thirds majority is required in cases which involve use of the Commission's plenary power to set aside *Code* provisions, while in other cases a simple majority is sufficient.

At the conclusion of the voting period an Opinion is prepared which incorporates the Commission's ruling. Members of the Commission may accompany their votes with comments, and these are reported in the Opinion. These comments may sometimes include matters which have to be referred to the applicants for clarification before the Opinion is published. On occasion, but fortunately not often, a member of the Commission may with his vote raise an issue of such substance that no Opinion can be issued until the comment is published and a re-vote taken; this naturally causes severe delay. A re-vote is also necessary if a majority is less than the two-thirds needed to set aside a *Code* provision, but again this is rare.

Publication of an Opinion in the *Bulletin* determines the status of the names and/or zoological works concerned. Although the Commission naturally has no ability to impose 'penalties' for non-observance of its rulings, these are by consensus almost always universally accepted. Names which are adopted or conserved in Opinions are placed on the *Official Lists of Names*; there are three of these, respectively for family-group, generic and specific names, and there is another for works. There are corresponding *Official Indexes* for names and works which have been rejected or suppressed

in Opinions. A rejected name is one which under the provisions of the *Code* cannot be valid for any taxon, while a suppressed name would (or could) be valid had it not been set aside by the Commission so ruling in the interests of stability. Conservation is the opposite of suppression: a conserved name is one whose continued usage would be illegitimate had not the Commission set aside the *Code* provisions which disqualified the name. Published works may also be conserved or suppressed. The suppression of a work does not denote censorship, but simply means that nomenclatural stability is best served by a ruling that in that work names should not be regarded as having been established or types as having been fixed; a suppressed work may of course be cited for bibliographic or taxonomic purposes.

The consolidated *Official Lists and Indexes of Names and Works in Zoology* was published as a single volume in 1987, which may be obtained from the Commission Secretariat. A free supplement covering Opinions in 1986–1990 is also available; each year's *Bulletin* covers the Opinions of that year.

It is an important function of the Commission's Secretariat and of individual Commissioners to give advice on any question with nomenclatural implications; neither the Commission nor the Secretariat are able to deal with purely taxonomic matters. Many nomenclatural enquiries are received, and are dealt with by letter or by telephone. The questions raised may concern a particular name or work or may relate to the interpretation of the *Code*; answering them may be straightforward or may involve considerable literature searching.

In addition to directly nomenclatural and editorial tasks the Secretariat deals with all aspects of the administration and financing of the Commission's activities.

The Commission has at present 29 members from 19 countries. Commissioners are zoologists or palaeontologists with nomenclatural experience who give of their time without payment; they are expected to participate in all the Commission's decisions and, as far as they can, to attend its meetings. The Commission meets triennially in conjunction with General Assemblies of the International Union of Biological Sciences, and has also met at the International Congress of Systematic and Evolutionary Biology. Nominations for election to the Commission may be sent to the Secretariat. Elections take place at Assemblies where the Commission meets, with voting both by members of the Commission and by other zoologists who are attending; casual vacancies may be filled by postal by-elections.

It is widely agreed that, in carrying out the functions outlined above, the Commission provides a valuable support service for zoology and indeed for biological science in general, including medicine and agriculture. Unfortunately, ever since its foundation nearly a century ago the resources available have severely constrained the ability of the Commission to respond rapidly to the commitments placed upon it by zoologists from around the world. For the first 50 years it had no income or tangible resources. In 1947, following the move of the Secretariat to London some years before, a non-profit making company, the International Trust for Zoological Nomenclature, was established in the U.K. to administer the financial affairs of the Commission; it receives and makes payments, holds copyrights and so on. Its only function is to act on behalf of the Commission, which is not itself incorporated in any country. There are four members of the Commission Secretariat: they are employed (only two on a full-time basis) by the Trust to serve the Commission. Income remains the limiting factor in the Commission's activities, and much Secretariat time has to be spent on financial

matters. Sales of publications (the *International Code of Zoological Nomenclature*, the *Bulletin of Zoological Nomenclature*, and the *Official Lists and Indexes of Names and Works in Zoology*) amounted to about £28,700 in 1990, covering considerably less than half the total costs (£67,200). In that year grants and donations amounted to about £25,000. This essential and much appreciated support came from Academies, Research Councils, learned societies and individuals in 14 countries. Outside the U.K., the largest single donor was the American Association for Zoological Nomenclature, and a similar European Association is now being formed. These figures show that further assistance to the Commission from those who use scientific names is vital.

While some may feel that the Commission is not adequately representative, that it is too conservative (or radical), or may be inclined to dissent from its decisions or the *Code*, all agree that uniformity of nomenclatural practice is important. The Commission exists to promote this, and welcomes suggestions to improve both its procedures and the *Code*.

There is understandable ignorance among zoologists about how their universal system of nomenclature is maintained and evolves, and about how the International Commission operates and its need for support. It is hoped that this paper may be of some help in increasing understanding.